

The Effect of Supportive Counseling on the Symptoms of Acute Stress Disorder Following Emergency Cesarean Section

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ARTICLE INFO	ABSTRACT
<p><i>Article type:</i> Original article</p>	<p>Background & aim: Adverse childbirth experiences can lead to the emergence of mental disorders, such as acute stress disorder (ASD), in mothers in the postpartum period. Birth trauma can occur following aggressive procedures such as emergency cesarean section. This study aimed to determine the effect of supportive counseling intervention on the symptoms of ASD in women after emergency cesarean delivery.</p> <p>Methods: This randomized clinical trial was conducted on 126 women with traumatic emergency cesarean section at Payambar-E Azam and Afzalipoor hospitals in Kerman, Iran. The participants were selected based on DSM-IV criteria. The subjects were randomly divided into the intervention and control groups. The intervention group received individual and face-to-face supportive counseling. The data collection tool was the Acute Stress Disorder Questionnaire, which was completed one and three weeks post-intervention. The data were analyzed using descriptive and inferential statistics by SPSS, version 13.</p> <p>Results: The two groups were comparable in terms of demographic characteristics, pregnancy complications, and midwifery history. Also, there was no significant difference between two groups regarding the depression and anxiety mean scores at the pre-intervention stage. The results revealed a statistically significant difference between the control and intervention groups in terms of all acute stress disorder symptoms after one and three weeks of the intervention ($P < 0.05$).</p> <p>Conclusion: As the findings indicated, the provision of supportive counseling for the mothers with a traumatic emergency cesarean section had a significant impact on the reduction of ASD symptoms.</p>
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Introduction

Labor is a normal physiological event that can be associated with positive and negative experiences. This event can sometimes be potentially harmful (1-4). Labor pain is among the most severe pains, which provokes strong

feelings and emotions that result in the emergence of post-traumatic stress disorders (PTSDs) in some women. The control of such a pain is an important healthcare objective. According to the literature, PTSD can develop

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following some invasive procedures, such as emergency cesarean section (C-sections) and psychological distress (1, 2).

One of the main underlying causes of PTSD following delivery is the method of delivery (5). The women who experience emergency C-section are at higher risk of psychological stress (4, 6, 7). According to the World Health Organization (WHO), 10-15% of the deliveries are C-sections. This rate is reported to be higher than 50% in Iran (8). According to the literature, postpartum anxiety has the incidence rate of 10-50%.

The incidence rate of PTSD among the women at any time after labor is up to 7% (3, 6). The PTSD is a mental disorder that happens after experiencing traumatic events (2, 9). Acute stress disorder (ASD) and PTSD are both anxiety disorders that are caused by a traumatic event, which provokes severe negative emotions in the individual (10). The ASD and PTSD symptoms generally include re-experiencing, avoiding to remember the event, numbing and increased provocation, feeling guilt and isolation, having panic attacks, and showing aggression.

The ASD symptoms begin at least on the second day and last up to a maximum of four weeks. If the symptoms continue more than four weeks, PTSD should be considered (10, 11). The PTSD can have serious consequences for the individual and society, including depression, decreased libido, dissatisfaction with being a mother, impaired lactation, unsuitable functioning (e.g., in job and education), and a significantly increased risk of suicide (12). Considering the risks of traumatic labor, the interventional methods can prevent from the occurrence of psychological trauma (5).

There are conflicting results regarding the effects of counseling on the prevention of postpartum anxiety. Lavender reported that the counseling provided by the midwives for the women who had experienced a traumatic childbirth in their first labor effectively reduced PTSD in the two follow-ups performed 4-6 weeks and 3 months postpartum (13). The health personnel's support can be protective for the mothers with PTSD symptoms following traumatic delivery. Communication is an important issue in the development of the interaction between mothers, midwives, and doctors (1, 4).

Among the healthcare workers, the midwives play an important role in the provision of counseling and health education for the women, family, and community. They are responsible for the maintenance and promotion of maternal and neonatal health and provision of high-quality care and accurate information for the mothers (14). Some studies have rejected the effectiveness of counseling on the prevention of mental health problems. In this regard, Ryding et al. reported no significant difference between the two study groups six months after delivery in terms of the improvement of psychological symptoms (15).

Likewise, in another study, the implementation of a counseling session was reported to have no impact on changing the mothers' mental status; however, it did not cause any side effects in the intervention group (16). Pregnant women's health is an important issue for the family and society. The prevention of mothers' mental illness in the postpartum period is another matter of significant importance.

Considering the high prevalence of anxiety disorders in this period and the effectiveness of counseling in improving this disorder (5), the present study was conducted to determine the effect of supportive counseling on ASD symptoms following emergency C-section in the women hospitalized in Afzalipour and Payambar-E Aazam hospitals in Kerman, Iran, in 2014. This study was an attempt to take a step towards improving the mental health of the women in the postpartum period.

Materials and Methods

This randomized clinical trial was conducted on the nulliparous and multiparous women admitted to the postnatal wards of Afzalipour and Payambar-e Aazam hospitals of Kerman following emergency C-section. The inclusion criteria were: 1) term birth and apparent health of the neonate, 2) ability to speak and understand Persian, 3) Iranian nationality, 4) no history of mental illness or taking psychiatric drugs, and 5) no history of infertility or miscarriage.

On the other hand, the exclusion criteria included: 1) special care requirement, 2) use of counseling services outside the hospital, and 3) experience of stressful events (e.g., the death of

the beloved ones or accidents during a year before labor or the end of the study). The sample size was determined as 126 cases based on the previous studies (21) by using the following formula ($d=1.5$, $\alpha=0.05$, $\sigma_1=2.7$, $\sigma_2=3.3$):

$$n = \frac{\left(z_{1-\frac{\alpha}{2}} + z_{1-\beta}\right)^2 (\sigma_1^2 + \sigma_2^2)}{d^2}$$

The subjects were assigned into the intervention and control groups. To this end, the participants who were enrolled on the first three and last four days of the week were allocated into the control and intervention groups, respectively. This cycle continued until the end of sampling. The diagnosis of PTSD in the women with emergency C-section was performed based on the criteria A of the Diagnostic and Statistical Manual of Mental Disorders (DSM), fourth edition, text revision. This criterion defines the characteristics of a traumatic event in psychology. According to this criterion, a traumatic event entails two fundamental conditions of threat and emotional response.

On this basis, four items were designed to determine a traumatic delivery. The first two items evaluated threats, whereas the next two items assessed the mother's emotional response. The delivery was considered traumatic in case of having one positive response in each of the two items. The scientific validity of the items was confirmed by Taghi-Zadeh et al. (2008) and Azizi et al. (2010). After obtaining informed consent from the participants, a demographic and obstetrics questionnaire was completed during the first 72 h, preferably after the first 24 h of childbirth.

The intervention group received supportive counseling, while the control group was provided with the routine postpartum care. The intervention included a face-to-face supportive counseling that was provided by the midwife researcher for 40-60 min under the supervision of a psychiatrist at the postnatal ward. This type of counseling does not require special psychological skills and is based on the emerging expertise of consulting in midwifery. The content of these sessions were designed by

the researcher based on the midwifery care and psychology books with the aid of a psychiatrist.

This counseling is usually provided when the mothers have not experienced any mental health problems yet, but it is expected that they will be at higher risk of mental health problems, compared to other mothers. Therefore, this type of counseling can be considered as a preventive care. According to a study by Linberg et al., the majority of the women with traumatic delivery experience were highly satisfied with having phone calls with the midwife during the postpartum care. Therefore, the intervention group was provided with the researcher's phone number for making phone calls if needed (17).

Due to missing some participants during the study, the intervention was conducted on 139 mothers; nevertheless, 13 members did not continue participating in the study after the intervention owing to having some problems with their neonates during the three-week follow-up and suffering from C-cesarean complications.

The Stanford Acute Stress Reaction Questionnaire (ASDQ) is a self-report tool consisting of 30 items. This questionnaire is rated on a five-point Likert scale (i.e., ranging from 0=unexperienced to 5=frequently experienced). This research instrument entails various criteria of DSM, including the symptoms of separation (10 items), re-experiencing (6 items), avoidance (6 items), irritability (6 items), and impaired functioning (2 items).

In the present study, a symptom was considered to be present if the respondent marked it as occurring at least "sometimes". In other words, the selection of the responses 3, 4, or 5 on a 0-5 scale was indicative of the presence of the symptom in the subject. The confirmation of ASD diagnosis requires the observation of at least three of the dissociative (separation) symptoms, in addition to at least one symptom in each of the cases of re-experiencing the trauma, avoidance, irritability, and impaired functioning.

After translating the questionnaire for the first time by the researcher, its content validity was confirmed by a group of psychiatrists and midwifery faculty members. The reliability of this tool was estimated by performing a pilot study on 30 participants and using the test-retest

($\alpha=0.89$). The questionnaire was completed one and three weeks after undergoing emergency C-section via phone calls.

Data analysis was performed using the independent t-test, Chi-square test, and Fisher's exact test.

P-value less than 0.05 was considered statistically significant.

The present study was conducted after obtaining the ethics code from the University (No: K.634.93). The written and oral consents were obtained from all the participants. Furthermore, the participants were assured about the possibility of study withdrawal at any time.

In the present study, the counseling sessions were provided just for the participants. It was more satisfactory if these interventional sessions were performed for the partners and families as well.

One of the strengths of this study was the implementation of the counseling sessions by a midwife since these sessions did not need any special psychological skills.

According to the results, the intervention and control groups were comparable in terms of demographics variables, including age, education level, economic and occupational status, pregnancy complications, parity, maternal and paternal satisfaction with the neonate's gender, and participation in childbirth preparation classes. Furthermore, the two groups showed no statistically significant difference regarding the demographic variables at the pre-intervention stage ($P>0.05$) (Table 1).

As the results indicated, 48%, 65%, 57%, 66%, and 51% of the participants experienced ASD symptoms of separation, re-experience, avoidance, irritability, and functioning in the first week after intervention, respectively. These symptom were observed in 47%, 53%, 50%, 59%, and 41% of the subjects in the third week post-intervention, respectively. The results of the Chi-square test showed a statistically significant difference between the control and intervention groups in terms of all the listed symptoms after the intervention ($P<0.05$) (Table 2).

Results

Table 1. Comparison of the intervention and control groups in terms of the demographic and obstetric variables

Demographic and obstetric data		Intervention group n=63		Control group n=63		P-value
		n	P	n	P	
Level of education	Under diploma	21	33.3	27	42.9	*0.09
	Diploma	23	36.5	27	42.9	
	Academic	19	30.2	9	14.3	
Economic status	Weak	8	12.7	9	14.3	*0.79
	Moderate to high	55	87.3	54	85.7	
Occupation	Housewife	56	88.9	61	96.8	**0.16
	Practitioner	7	11.1	2	3.2	
Number of caesarean sections	Primiparity	24	38.1	31	49.2	*0.20
	Multiparity	39	61.9	32	50.8	
Pregnancy complications	Yes	27	42.9	17	27	*0.06
	No	36	57.1	46	73	
Maternal and paternal tendency toward recent pregnancy	Yes	47	50	50	79.4	*0.52
	NO	16	25.4	13	25.6	
Maternal satisfaction with neonate's gender	Yes	51	81	58	92.1	*0.06
	No	12	19	5	7.9	
Paternal satisfaction with neonate's gender	Yes	51	81	54	85.7	*0.47
	No	12	19	9	14.3	
Age		**27.82±4.87		**28.50±5.59		***0.46

*Chi-square, **Fisher, ***t-test

Table 2. Comparison of acute stress disorder symptoms between the control and intervention groups in the first and third weeks post-delivery based on Chi-square test

Symptoms	First week n (%)				P-value	Third week n (%)				P-value
	Control (mean±SD)		Intervention (mean±SD)			Intervention (mean±SD)		Control (mean±SD)		
	Present	Absent	Present	Absent		Present	Absent	Present	Absent	
Separation	7 (11.1)	56 (88.9)	54 (85.7)	9 (14.3)	0<0.0001	4 (6.3)	59 (93.7)	56 (88.9)	7 (11.1)	0<0.0001
Re-experience	32 (50.8)	31 (49.2)	50 (79.4)	13 (20.6)	0.001	17 (27)	46 (73)	50 (79.4)	13 (20.6)	0<0.0001
Avoidance	20 (31.7)	43 (68.3)	52 (82.5)	11 (17.5)	0<0.0001	12 (19)	51 (81)	52 (82.5)	11 (17.5)	0<0.0001
Irritability	36 (57.1)	27 (42.9)	48 (76.2)	15 (23.8)	0.037	26 (41.3)	37 (58.7)	49 (77.8)	14 (22.2)	0<0.0001
Operation	22 (34.9)	41 (65.1)	43 (68.3)	20 (31.7)	0<0.0001	6 (9.5)	57 (90.5)	46 (73)	17 (27)	0<0.0001

Present: there is disorder in this dimension, absent: there is no disorder in this dimension

Table 3. Comparison of acute stress disorder symptoms between two groups in the first and third weeks after birth according to McNemar's test

Symptoms	Intervention n (%)				P-value	Control n (%)				P-value
	First week		Third week			First week		Third week		
	Present	Absent	Present	Absent		Present	Absent	Present	Absent	
Separation	7 (11)	56 (89)	4 (7)	59 (93)	0.25	54 (85.7)	9 (14.3)	56 (89)	7 (11)	0.62
Re-experience	32 (50.8)	31 (49.2)	17 (26.9)	46 (73.1)	0<0.0001	50 (79.4)	13 (20.6)	50 (79.4)	13 (20.6)	0.99
Avoidance	20 (31.7)	43 (68.3)	12 (19)	51 (81)	0.008	52 (82.5)	11 (17.5)	52 (82.5)	11 (17.5)	0.99
Irritability	36 (57.1)	27 (42.9)	26 (41.3)	37 (58.7)	0.006	48 (76)	15 (24)	49 (77.8)	14 (22.2)	0.99
Operation	22 (34.9)	41 (65.1)	6 (9.5)	57 (90.5)	0<0.0001	43 (68)	20 (32)	46 (73)	17 (27)	0.25

Present: there is disorder in this dimension, absent: there is no disorder in this dimension

The implementation of two pretests in the McNemar statistical analysis in the intervention group revealed a statistically significant difference in re-experience ($P<0.001$), avoidance ($P=0.008$), irritability ($P=0.006$), and functioning ($P<0.001$). However, no significant difference was found in terms of separation in this group ($P=0.25$). On the other hand, there was no statistically significant difference in the control group regarding the ASD symptoms, including separation ($P=0.62$), re-experiencing, avoidance, irritability ($P=0.99$), and functioning ($P=0.25$) in the first and third weeks (Table 3).

Discussion

While labor is considered a normal and natural event by many women, it is a stressful life experience for others. Trauma during delivery can negatively affect the mother's mental health and adaptation in the postpartum

period. Accordingly, it can expose the mother at risk of other mental disorders if not diagnosed timely and treated properly. The provision of supportive counseling by the healthcare personnel is an effective method for the treatment of anxiety. Since the midwives spend more time with the pregnant women during the labor and the following days, they play an important role in the provision of supportive counseling and must care for mother's mental health in the subsequent follow-ups.

The findings of the present study were suggestive of the effect of supportive counseling on the reduction of the ASD symptoms. According to Gamble, it is very important to create a proper environment for the presentation of supportive counseling to the women who have experienced traumatic childbirth (18, 19), which is in agreement with the present study. However, in another study

conducted by Gamble (2002), one session of counseling was reported to be ineffective in reducing postpartum psychiatric symptoms. This may be due to the type of counseling and its content (20). In another study, Gamble (2005) confirmed that counseling in the first 72 h and during the 4-6 weeks postpartum was more effective in the reduction of anxiety (21).

In a study carried out by Nickpoor (2012), such complications as feelings of sadness, inability to enjoy, irritability, and anger were more frequent in the women who had C-section, compared to those who had vaginal delivery (22). In the present study, we were able to significantly reduce the symptoms of irritability, anger, and separation. Larson observed that the women who had bad memories of labor were likely to stay in the hospital for a longer time, have fear of re-experiencing it in future pregnancies, feel resentment, and need more sedatives (23). In the present study, the re-experiencing symptoms were also significantly reduced through supportive counseling.

Ryding et al. (1998) compared different delivery methods, such as vaginal delivery, forceps delivery, vacuum extraction, elective C-section, and emergency C-section, on the first few days and a month after delivery. They demonstrated that the women who had undergone an emergency C-section experienced more negative symptoms of PTSD or generally psychological distress at both times (24). Accordingly, the findings of similar studies indicated that emergency C-section and forceps delivery were associated with the occurrence of PTSD following the childbirth (13, 25).

In line with the previous studies, Noyman (2015) highlighted the role of social support and stated that lower support levels lead to the aggravation of PTSD symptoms (26). In the present study, social support was included in a part of supportive counseling, which significantly reduced mental anxiety and PTSD following emergency C-section both one and three weeks post-delivery.

In a study, Taghi-Zadeh et al. (2008) conducted 40-to-60-minute counseling sessions during the first 72 h of delivery. They reported that the counseling provided by midwives in the follow-ups 4-6 weeks after delivery did not significantly change the PTSD symptoms

between the two study groups ($P=0.29$). However, in the follow-up conducted three months postpartum, the women in the intervention group had lower anxiety levels, compared to the control group (2).

likewise, Azizi (2010) observed a statistically significant difference between the two study groups in terms of the anxiety scores obtained 4-6 weeks and 3 months after delivery ($P<0.001$) following the counseling sessions. The findings of these two studies are consistent with those obtained in the present study (27). Based on the findings, screening for ASD in women with traumatic delivery is a useful preventive measure. Therefore, the provision of supportive counseling for these women by the midwives can be helpful in the improvement of mothers' health.

Conclusion

As the findings of the present study indicated, supportive counseling can reduce the symptoms of ASD following emergency C-section.

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Conflicts of interest

The authors of the present study declare no conflicts of interest.

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